

What is claimed is:

1 1. A probe apparatus for testing a circuit chip, said probe  
2 apparatus comprising a probe group having two or more  
3 probes for independently conductively contacting a  
4 single terminal of said circuit chip.

1 2. The probe apparatus of claim 1, further comprising  
2 an electronic circuit capable of recognizing a test  
3 path resistance and correspondingly compensating a  
4 voltage drop of an operational signal passing  
5 through at least one of said probes.

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Subcl

3 The probe apparatus of claim 2, wherein said  
probe group comprises three probes and said  
electronic circuitry is capable of recognizing  
a) a first path resistance of said  
resistance condition between said first  
and said second contacting means along  
said single test terminal;  
b) a second path resistance of said  
resistance condition between said first  
and said third contacting means along  
said single test terminal;  
c) a third path resistance of said  
resistance condition between said second  
and said third contacting means along  
said single test terminal; and  
wherein said electronic circuitry is capable  
of compensating said voltage drop  
individually and in correspondence to one,

19 two or three operational signal paths  
20 related to said probes.

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1 4. The probe apparatus of claim 2, wherein said  
2 probe group comprises four probes and said  
3 electronic circuitry is capable of recognizing  
4 said test path resistance according to 4-Wire  
5 Ohm's Measurement.

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1 5. The probe apparatus of claim 1, wherein at least  
2 one of said two or more probes is a buckling beam.

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1 6. The probe apparatus of claim 1, wherein said probe  
2 group is bundled in a single perforation of a  
3 sheath being part of said probe apparatus.

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1 7. The probe apparatus of claim 6, wherein said  
2 single perforation is a long hole.

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1 8. The probe apparatus of claim 6, wherein said  
2 single perforation is a circular hole.

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1 9. The probe apparatus of claim 1, wherein said two or  
2 more probes have probe tips essentially  
3 concentrically arranged in correspondence to a  
4 rotation axis of said single terminal having a  
5 rotationally symmetric and non planar contact  
6 surface such that said two or more probes contact  
7 said single terminal in a self centering fashion.

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1 10. The probe apparatus of claim 9, wherein said  
2 probe tips are essentially spherical.

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1 11. A method for compensating a voltage drop of an  
2 operational signal passing through an operational  
3 signal path having a constant resistance and a  
4 variable resistance related to a contact quality of a  
5 probe and a terminal of said operational signal path,  
6 said method comprising the steps of:

- 7 a) contacting said terminal with a group of two or  
8 more of said probes;  
9 b) recognizing a path resistance along said probes of  
10 said group, said terminal and interfaces between  
11 said probes and said terminal;  
12 c) deriving an operational signal path resistance from  
13 said path resistance; and  
14 d) compensating said voltage drop in correspondence to  
15 said operational signal path resistance.  
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1 12. The method of claim 5, wherein said contacting is  
2 provided by said group including a first, a  
3 second and a third of said probes, wherein said  
4 recognizing includes recognizing a first, second  
5 and a third path resistance corresponding to said  
6 first, second and said third of said probes, and  
7 wherein said deriving includes deriving an  
8 absolute value of a first, second and third  
9 operational signal path resistance corresponding  
10 to said first, second and said third path  
11 resistance.